

## What is it?

*Turbidity is a measure of water clarity. Highly turbid water appears cloudy or murky because of a large amount of suspended particles. Suspended particles can include organic materials such as algae, soil or plant particles and human or animal waste. Suspended particles can refer to inorganic materials including contaminants such as oils, chemicals and fertilisers.*



**Why monitor turbidity:** Turbidity levels are one of the most immediate and recognisable indicators of water quality. Turbidity levels affect the ability of humans and flora and fauna to use, enjoy and interact with waterways.

**What causes turbidity to change:** Many events can increase turbidity, including erosion, storm events, or bottom-feeding fauna such as carp. Nutrient and particle rich urban stormwater makes a significant impact to turbidity levels, often leading to algal growth. Bank erosion contributes soil particles to waterways and is often a direct result of unrestricted stock access combined with removal of protective riparian vegetation.

**What are the environmental impacts:** High turbidity levels limit the amount of light able to penetrate the water's surface. This affects plant growth by reducing their ability to photosynthesise. Reduced plant growth leads to decreased amounts of oxygen in the water and the loss of vital habitat for aquatic animals. Fine particles settle on surfaces, smothering plants, rocks, logs and fish eggs and larvae. Fish can also suffer from clogged gills.

**Managing turbidity levels:** Soil erosion is a major contributor to sediment loads in our waterways. Limiting stock access and revegetating streams, decreases erosion. Grasses and groundcover act as a physical filter by trapping sediments while larger shrubs and trees stabilise banks. Managing urban stormwater input is also an effective way to reduce turbidity levels.

**How to measure turbidity:** Turbidity levels are commonly measured with a turbidity tube or meter. In low levels of turbidity, it is possible to clearly see through a larger volume of water. In highly turbid water it is difficult to clearly see through smaller amounts.

The standard unit of measurement is the Nephelometric Turbidity Unit (NTU). The clearer the water, the lower the score, indicating low turbidity levels. The acceptable level of turbidity in freshwater within north central Victoria is <20 NTU.

Highly saline water usually has low turbidity due to its high ionic strength which forces particles to settle.

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